

What is claimed is:

1. An address input buffer in a semiconductor memory device, comprising:

5 a differential amplifying means for differentially amplifying a reference voltage and an external address signal; and

a controlling means for controlling the differential amplifying means by receiving a refresh signal and a bank  
10 active signal.

2. The address input buffer as recited in claim 1, wherein the controlling means further receives a power down  
15 signal.

3. The address input buffer as recited in claim 2, wherein the controlling means includes:

a NAND gate receiving the refresh signal and the bank active signal;

20 an inverter receiving an output of the NAND gate; and

a NOR gate receiving an output of the inverter and the power down signal.

4. An address buffer in a semiconductor memory device,  
25 comprising:

a differential input unit receiving a reference voltage and an address signal;

a current mirroring unit connected between the differential input unit and a first voltage;

a biasing unit, which is connected between the differential input unit and a second voltage, for supplying  
5 bias current to the differential input unit and the current mirroring unit; and

a controlling unit for enabling/disabling the biasing unit by receiving a refresh signal and a bank active signal.

10 5. The address input buffer as recited in claim 4, wherein the controlling unit further receives a power down signal.

6. The address input buffer as recited in claim 5,  
15 wherein the controlling means includes:

a NAND gate receiving the refresh signal and the bank active signal;

an inverter receiving an output of the NAND gate; and

a NOR gate receiving an output of the inverter and the  
20 power down signal.

7. The address input buffer as recited in claim 6, wherein the differential input unit, the current mirroring unit and the biasing unit constitutes a differential  
25 amplification circuit of a PMOS type.

8. The address input buffer as recited in claim 5,

wherein the controlling means includes:

a NAND gate receiving the refresh signal and the bank active signal;

a first inverter receiving an output of the NAND gate;

5 a NOR gate receiving an output of the inverter and the power down signal; and

a second inverter receiving an output of the NOR gate.

9. The address input buffer as recited in claim 8,  
10 wherein the differential input unit, the current mirroring unit and the biasing unit constitutes a differential amplification circuit of an NMOS type.

10. The address input buffer as recited in claim 5,  
15 further comprising a CMOS inverter connected to an output node provided in the differential input unit.

11. The address input buffer as recited in claim 5,  
further comprising a precharge unit for precharging the output  
20 node in response to an output signal of the controlling unit.